Application No. 09/414,483
Office Action dated December 8, 2009
Response dated March 5, 2010

REMARKS

The examiner alleges that the subject matter of claims 53 to 57 and 63 to 64 is rendered obvious by United States Patent No. 3,258,889 to Butcher in view of United States Patent No. 4,676,038 to Doyon et al. The examiner alleges that claim 58 is rendered obvious further in view of United States Patent No. 5,371,989 to Lehnert.

In response it is respectfully requested that these objections be withdrawn for reasons that include those set out below.

Patentability of Claims 53 to 58

The present invention as claimed in claim 53 is directed to a building component using a combination of metal corner connectors comprising a box-shaped intermediate section with vertical and horizontal flanges in face-to-face contact with lengths of lumber that form a frame around an opening and a reinforcement skin extending over said lengths of lumber and said opening at one side of the frame.

This combination of the corner connectors and reinforcement skin provides a synergistic effect, representing an improvement over the cited references, in inhibiting distortion of the frame by racking forces that for example may arise from earthquakes.

None of the cited references discloses the combination of metal corner connectors and a reinforcement skin, despite the clear advantages provided by such a system. This strongly suggests that the subject matter of the present invention is not in fact rendered obvious by the cited references.

It is therefore submitted that the subject matter of claim 53 merits patent protection and should be allowable. Because claims 54 to 58 depend from claim 53, it follows that they too should be allowable for this reason, in addition to reasons relating to the patentability of their additional subject matter.

It is further submitted that the reinforcement skin as claimed in claim 53 is not disclosed by the system in Butcher.

Skin may be defined as a usually thin, closely adhering outer layer (please see the freedictionary.com in this regard). Skin is elastic and can be bent without losing strength, stiffness or other structural capacity. This is in marked contrast to wallboard as disclosed in the system of Butcher. Wallboard is brittle and rigid. Moreover the examiner does not cite any reference to support the assertion that wallboard may be fiber reinforced or that it would be sufficient for resisting earthquake damage. It is submitted rather that the Butcher patent discloses standard decking. It is therefore submitted that claim 53 is not rendered obvious by the cited references because the cited references when combined do not result in the invention as claimed.

Thus, neither of the references alone or together provides a solution to the problem caused by earthquake damage, and the present application as claimed in claim 53, with its combination of the reinforcement skin and corner connectors, does.

The skin aspect of the present invention is further underscored by claims 56 and 57, which recite that the skin overlaps to the periphery and opposite side of the frame, respectively. This is also shown in Figure 2 of the present application.

Nowhere in the cited references is there taught the synergistic combination of using metal corners, a reinforcement skin made of composite material and a fiber mesh reinforcing the composite material, as claimed in claim 58.

The applicant takes this opportunity to replace "form" with "foam" in claim 53 and remove an extra "and".

Patentability of Claims 63 and 64

Claims 63 and 64 are directed to a combination including metal connectors with a box-shaped intermediate section with projecting flanges for face-to-face contact with lengths of lumber. These corner connectors represent a compact, convenient means for connecting lengths of lumber that improves a building structure's resistance to twisting arising from, for example, earthquakes.

When a wall is loaded by racking forces, the side members 16 or studs dictate the wall structural capacity. One stud transfers compression forces and the other transfers tensile forces. In order to utilize the capacity of the studs, a stud-to-plate connection must be able to transfer force from the studs in both directions. The system shown in Butcher is inhibited from transferring any decent pull load from its stud 16 to its plate 12 because the stud and plate are connected using only two or three nails. Nails have a withdrawal capacity that is very low. The system shown in Butch is also inhibited from transferring compression forces from its stud 16 to its plate 14 because the plate 14 has a very low compression perpendicular to grain resistance.

The corner connector with box-shaped sections as claimed in claims 63 and 64 accommodates these forces. The lengths of lumber abut the box-shaped intermediate section. Thus compression force is effectively transferred to the connector and further to the foundation. The flanges of the

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connector are in face-to-face contact with the lengths of lumber. Thus tensile force is transferred to the connector flanges

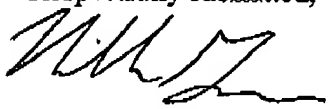
The corner connector as claimed is in contrast to the system disclosed in Doyon, which comprises many parts and is relatively complex. Moreover nowhere within the Doyon patent is there a teaching or suggestion that such cabinet connects may be used for the purposes of increasing the resistance to racking forces, for such situations as earthquakes. It is respectfully submitted that someone skilled in the art of building making would not look to cabinet making technology for such a problem.

In view of the above it is submitted that the subject matter of claims 63 and 64 also merits patent protection and that the claims should be allowable.

Conclusion

It is believed that the objection has been overcome and the application is now in order for allowance.

Respectfully submitted,



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